



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/597,517	07/27/2006	Kentaro Nakahara	NEC 04P314	2231
27667	7590	11/13/2009		
HAYES SOLOWAY P.C. 3450 E. SUNRISE DRIVE, SUITE 140 TUCSON, AZ 85718			EXAMINER HAN, KWANG S	
			ART UNIT	PAPER NUMBER
			1795	
			NOTIFICATION DATE	DELIVERY MODE
			11/13/2009	ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

admin@hayes-soloway.com
smckniff@hayes-soloway.com
nsoloway@hayes-soloway.com

Office Action Summary	Application No. 10/597,517	Applicant(s) NAKAHARA ET AL.	
	Examiner Kwang Han	Art Unit 1795	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 07 July 2009.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-5 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-5 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

Art Unit: 1795

**ELECTRIC POWER STORAGE DEVICE EMPLOYING A POSITIVE ELECTRODE
CONTAINING NITROXYL POLYMER**

Examiner: K. Han SN: 10/597,517 Art Unit: 1795 November 10, 2009

Detailed Action

1. The Applicant's amendment filed on July 7, 2009 was received. Claims 1 and 5 were amended.
2. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

Priority

3. The request for a certified copy of the JP 2004-038740 is withdrawn in view of the priority documents presence in the PCT application.

Specification

4. The objection the specification is withdrawn in view of the Applicant's amendment to the title.

Claim Rejections - 35 USC § 103

5. Claims 1-5 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nakahara et al. (JP 2002-304996, machine translation) in view of Farahmandi et al. (US 5777428) is maintained.

Art Unit: 1795

Regarding claim 1, Nakahara is directed towards an electric storage device (power storage device) comprising a nitroxyl polymer which has a nitroxyl cation partial structure and a nitroxyl radical partial structure [Abstract, 0008-0009] in a cathode. Nakahara discloses the collector to be comprised of various materials including a carbon raw material and aluminum [0046] but is silent towards the carbon layer being formed and integrated on an aluminum electrode.

Farahmandi teaches a capacitor having an aluminum impregnated with carbon electrode to form a composite electrode attached to the current collector plate to form a high performance double layer capacitor (5:50-58-6:25-45). It would have been obvious to one of ordinary skill in the art at the time of the invention to use an aluminum electrode impregnated with carbon in Nakahara's electric storage device because Farahmandi teaches it provides for a bipolar type double layer capacitor that can deliver large amounts of useful energy at a very high power output and power density rating (5:21-24).

Regarding claims 2 and 3, Nakahara disclose the use of an electrolyte (electro-conductivity imparting agent) but is silent towards the amount present [0047, 0050].

Farahmandi teaches the porosity of the composite electrodes must be controlled to permit sufficient amount of electrolyte to penetrate the pores of the carbon fibers (5:50-57, 6:49-63). It is well recognized in the art that the amount of electrolyte present in a power storage device is dependant upon the requirements of the device. Thus, Farahmandi is clearly teaching that the amount of electrolyte is a results effective

Art Unit: 1795

variable. The courts have held that optimization of a results effective variable is not novel. In re Boesch, 617 F.2d 272, 205 USPQ 215 (CCPA 1980).

Regarding claim 4, Nakahara discloses the cyclic nitroxyl structure [0010].

Regarding claim 5, Nakahara discloses the nitroxyl polymer compound having a side chain containing a residue which removes at least one hydrogen atom bonded to an element forming at least one cyclic nitroxyl structure [0017-0022].

Double Patenting

6. Claims 1, 4 and 5, provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1, 3, 5 and 6 of copending Application No. 10/597518 has been withdrawn in view of the Applicant's filing of a Terminal Disclaimer on July 7, 2009.

Response to Arguments

7. Applicant's arguments filed July 7, 2009 have been fully considered but they are not persuasive.

Applicant's principal arguments are:

(a) the Nakahara and Farahmandi reference does not teach a cathode collector comprising a conductive auxiliary layer comprising carbon as a main component formed and integrated on an aluminum electrode and would not look towards the composite electrode capacitor art for a solution.

In response to Applicant's arguments, please consider the following comments:

(a) the Nakahara reference is directed towards an electric capacity device such as a capacitor [0014] and the Farahmandi reference is also directed towards a capacitor which is directed towards the same field of endeavor. Farahmandi teaches the use of a composite electrode because this electrode structure provides for a high power output and power density rating providing sufficient motivation for combining. Furthermore the composite electrode is fabricated by carbon cloth preform or a carbon paper preform (auxiliary layer) which is impregnated with molten aluminum (formed and integrated on an aluminum electrode) (6:54-63) meeting the limitations of the claim.

Conclusion

8. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Art Unit: 1795

Contact/Correspondence Information

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kwang Han whose telephone number is (571) 270-5264. The examiner can normally be reached on Monday through Friday 8:00am to 5:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Dah-Wei Yuan can be reached on (571) 272-1295. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/K. H./
Examiner, Art Unit 1795

/Dah-Wei D. Yuan/
Supervisory Patent Examiner, Art Unit 1795